Listing of the Claims

1. (Currently Amended) A spatial light modulator, comprising:

an optically transmissive substrate;

a semiconductor substrate positioned a spaced distance from the optically transmissive substrate;

a deflectable member positioned between the optically transmissive substrate and the semiconductor substrate and supported by one of the optically transmissive substrate and the semiconductor substrate, the member configured to deflect from a rest position to at least one operative position when electrostatically attracted to at least one address electrode located on the semiconductor substrate, wherein the semiconductor substrate includes circuitry to control the at least one address electrode; and

a reset electrode operable to reset the deflectable member to the rest position wherein the reset electrode is connected to a power source independent of the circuitry in the semiconductor substrate.

2. (Original) The spatial light modulator of claim 1 wherein the reset electrode is positioned on at least one of the optically transmissive substrate and the semiconductor substrate.

3. (Original) The spatial light modulator of claim 2 wherein the reset electrode has a voltage potential sufficient to overcome electrostatic attraction between the deflectable member and the address electrode.

4. (Currently Amended) ~~The~~A spatial light modulator, ~~of claim 2~~comprising:

an optically transmissive substrate;

a semiconductor substrate positioned a spaced distance from the optically transmissive substrate;

a deflectable member positioned between the optically transmissive substrate and the semiconductor substrate and supported by one of the optically transmissive substrate and the semiconductor substrate, the member configured to deflect from a rest position to at least one operative position when electrostatically attracted to at least one address electrode located on the semiconductor substrate; and

a reset electrode operable to reset the deflectable member to the rest position wherein the reset electrode is positioned on at least one of the optically transmissive substrate and the semiconductor substrate, and wherein the reset electrode is composed of optically transparent conductive material.

5. (Original) The spatial light modulator of claim 4 wherein the optically transparent conductive material is an oxide that includes at least one material comprising tin and a Group III element.

6. (Original) The spatial light modulator of claim 4 wherein the optically transmissive substrate has an upper face distal to the semiconductor substrate and an opposed lower face, and wherein the transparent conductive material is positioned on the lower face of the optically transmissive substrate.

7. (Currently Amended) ~~The~~A spatial light modulator, ~~of claim 1~~comprising:

an optically transmissive substrate;

a semiconductor substrate positioned a spaced distance from the optically transmissive substrate;

a deflectable member positioned between the optically transmissive substrate and the semiconductor substrate and supported by one of the optically transmissive substrate and the semiconductor substrate, the member configured to deflect from a rest position to at least one operative position when electrostatically attracted to at least one address electrode located on the semiconductor substrate; and

a reset electrode operable to reset the deflectable member to the rest position wherein the optically transmissive layer and the semiconductor substrate define a sealed chamber, the spatial light modulator further comprising a fluid contained in the sealed chamber.

8. (Currently Amended) The spatial light modulator of claim 1 further comprising a voltage controller, the voltage controller operable on the at least one address electrode and power source connected to the reset electrode to actuate deflection and reset of the deflectable member.

9. (Original) The spatial light modulator of claim 1 wherein the deflectable member is reflective.

10. (Original) The spatial light modulator of claim 1 wherein the semiconductor substrate and optically transmissive substrate include at least one region in which the semiconductor substrate is in direct bonded relationship to the optically transmissive substrate.

11. (Currently Amended) A digital micromirror comprising:

a semiconductor substrate;

an optically transmissive substrate disposed a spaced distance from the semiconductor substrate;

at least one deflectable mirror member supported by at least one of the semiconductor substrate and the optically transmissive substrate, the mirror member deflectable between a rest position and at least one operative position;

at least one address electrode operable on the deflectable mirror member to move the mirror member into the operative position, the address electrode having an address electrode voltage potential controlled by first circuitry within the semiconductor substrate; and

at least one reset electrode operable on the deflectable mirror member to move the mirror member into the rest position, the reset electrode having a reset electrode voltage potential connected to second circuitry independent of the first circuitry and off of the semiconductor substrate, wherein the reset electrode voltage potential is sufficient to overcome the address electrode voltage potential.

12. (Original) The digital micromirror of claim 11 wherein the reset electrode is positioned between the deflectable mirror member and one of the optically transmissive substrate and the semiconductor substrate.

13. (Currently Amended) ~~The~~A digital micromirror, comprising:~~of claim 11~~

a semiconductor substrate;

an optically transmissive substrate disposed a spaced distance from the semiconductor substrate;

at least one deflectable mirror member supported by at least one of the semiconductor substrate and the optically transmissive substrate, the mirror member deflectable between a rest position and at least one operative position;

at least one address electrode operable on the deflectable mirror member to move the mirror member into the operative position, the address electrode having an address electrode voltage potential; and

at least one reset electrode operable on the deflectable mirror member to move the mirror member into the rest position, the reset electrode having a reset electrode voltage potential, wherein the reset electrode voltage potential is

sufficient to overcome the address electrode voltage potential wherein the reset electrode is positioned between the optically transmissive substrate and the deflectable mirror member, the reset electrode composed of optically transparent conductive material.

14. (Currently Amended) ~~The~~A digital micromirror, comprising:~~of claim 11~~

a semiconductor substrate;

an optically transmissive substrate disposed a spaced distance from the semiconductor substrate;

at least one deflectable mirror member supported by at least one of the semiconductor substrate and the optically transmissive substrate, the mirror member deflectable between a rest position and at least one operative position;

at least one address electrode operable on the deflectable mirror member to move the mirror member into the operative position, the address electrode having an address electrode voltage potential; and

at least one reset electrode operable on the deflectable mirror member to move the mirror member into the rest position, the reset electrode having a reset electrode voltage potential, wherein the reset electrode voltage potential is sufficient to overcome the address electrode voltage potential wherein the optically transmissive substrate and the semiconductor substrate define a sealed chamber, the digital micromirror further comprising a fluid contained in the sealed chamber.

15. (Currently Amended) The digital micromirror assembly of claim 11 further comprising a voltage controller, the voltage controller operable on the first and second circuitry to control the address and reset electrodes, respectively to actuate deflection and reset of the deflectable mirror member.

Claims 16-23 (Cancelled).

24. (Currently Amended) A method for resetting at least one digital micromirror comprising the steps of:

applying a bias voltage to a reset electrode associated with a deflectable micromirror assembly, and

discontinuing application of the bias voltage after deflection of a micromirror within the assembly from an operative position;

wherein the micromirror assembly includes:

a semiconductor substrate;

an optically transmissive substrate disposed a spaced distance from the semiconductor substrate;

at least one deflectable mirror member supported by at least one of the semiconductor substrate and the optically transmissive substrate;

at least one address electrode operable on the deflectable mirror member to move the mirror member into at least one operable position, the address electrode having an address electrode voltage potential; and

at least one reset electrode operable on the deflectable mirror member to move the mirror member into the rest position, the reset electrode having a reset electrode voltage potential, wherein the reset electrode voltage potential is sufficient to overcome the address electrode voltage potential, wherein the reset electrode is positioned between the optically transmissive substrate and the deflectable mirror member, the reset electrode composed of optically transparent conductive material.

25. (Cancelled).

26. (Currently Amended) The method of claim [[25]]24 wherein the reset electrode is a high voltage electrode.

27. (Cancelled).

28. (Cancelled).

29. (Original) The method of claim 24 wherein the micromirror assembly is present in an array and the bias voltage is applied to a plurality of micromirror assemblies in the array.

Claims 30-32 (Cancelled)

33. (Currently Amended) A method for modulating light, comprising the steps of:

providing a spatial light modulator, including:

an optically transmissive substrate;

a semiconductor substrate positioned a spaced distance from the optically transmissive substrate;

at least one mirror member deflectable between a rest position and at least one operative position, the at least one mirror member supported by one of the optically transmissive substrate and the semiconductor substrate, the at least one mirror member operable to deflect when electrostatically attracted to at least one address electrode located on the semiconductor substrate; and

a reset electrode operable to reset the at least one mirror member to the rest position;

providing an incoming light beam that passes through the optically transmissive substrate;

applying a bias voltage between the at least one mirror member and the address electrode so as to deflect the at least one mirror member due to electrostatic attraction;

reflecting light back through the optically transmissive substrate and into an imaging target with the at least one mirror member in the operative position; and

applying a bias voltage to a reset electrode, the bias voltage sufficient to overcome electrostatic attraction to the address electrode wherein the bias voltage functions independent of electronic circuitry present in the semiconductor substrate that operates the at least one address electrode.

34. (Currently Amended) A spatial light modulator, comprising:

an optically transmissive substrate;

a semiconductor substrate positioned a spaced distance from the optically transmissive substrate;

means for selectively reflecting light, the light reflecting means positioned between the optically transmissive substrate and the semiconductor substrate and supported by one of the optically transmissive substrate and the semiconductor substrate, the light reflecting means configured to deflect from a rest position to at least one operative position; and

means for resetting the light reflecting means to the rest position;

wherein the resetting means generates an electrostatic force operable on the light reflecting means and functions independent of electronic circuitry present in the semiconductor substrate.

35. (Original) The spatial light modulator of claim 34 wherein the resetting means is connected to one of the optically transmissive substrate and the semiconductor substrate.

36. (Cancelled).